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**REMARKS**

Claims 1-11 and 36 are pending in the present application; Claim 7 has been amended herein; and Claim 36 has been added. Claim 12 has been cancelled and rewritten in independent form as new claim 36. The amendment to claim 7 is supported by the specification at page 14, lines 7-10. No new matter has been added. The present application generally relates to the use of urea sulfate in the process streams and solutions in the paper and pulping industries to control pH and to replace all or part of the sulfuric acid, hydrochloric acid, and/or papermaking alum used in the paper and pulping industries.

**I. Rejection under 35 U.S.C. § 102(b)**

Claims 7-12 are rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Pat. No. 5,234,446 to Sargent *et al.*. Applicants respectfully submit that *Sargent* does not anticipate Claims 7-12 of the instant application.

Claim 7 of the present application discloses a method for controlling the pH of a process stream or solution of a pulping or papermaking process by adding urea sulfate in an amount sufficient to adjust the pH of the stream or solution as desired. *Sargent* generally discloses a method for adjusting the pH in textile processing solutions by the use of urea sulfate or other strong acid in the presence of a weak base.

The Office Action states that *Sargent* discloses a method for adjusting the pH of a process stream or solution of a papermaking process as recited in the instant claims. However, the only disclosed use of urea sulfate in a papermaking process in *Sargent* is in col. 3, lines 10-12, which discloses the use of urea sulfate "in paper manufacturing by reducing pulp degradation in the bleaching stages." On page 14 of the application, lines 7-10, it is noted that in one

embodiment of the invention, urea sulfate is "added to a pulping or papermaking process stream or solution...except for reducing pulp degradation in the bleaching stages." (emphasis added). Claim 7 has been amended to exclude the use of urea sulfate for reducing pulp degradation in the bleaching stages. Applicants respectfully submit that including this limitation eliminates *Sargent* as a reference under §102(b).

Nothing in *Sargent* teaches or suggests the use of urea sulfate in any other aspect of a pulping or papermaking process, and therefore *Sargent* fails to teach the elements of Claim 7, as required for anticipation under 35 U.S.C. §102(b). Applicants respectfully submit that Claim 7, and all claims dependent therefrom, are thus novel over, and unanticipated by, *Sargent*.

## **II. Rejection under 35 U.S.C. § 103(a)**

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 4,911,790 to Lindstrom *et al.* in view of U.S. Patent No. 5,234,466 to Sargent *et al.*

Claim 1 of the present application discloses a method for decreasing the amount of aluminum sulfate hydrate required by a pulping or papermaking process by adding to a process stream or solution of a pulping or papermaking process an effective amount of urea sulfate. The Office Action states that it would have been obvious for one of ordinary skill in the art to modify the method of *Lindstrom* by addition of urea sulfate in view of the teachings of *Sargent*. However, *Lindstrom* merely suggests the use of alum to adjust the pH of a process stream or solution and does not suggest replacement of the alum. The Office has not supplied any reference or other evidence teaching or suggesting the replacement of alum with urea sulfate in a papermaking process. Thus, the Examiner has provided no motivation for modifying the disclosure of *Lindstrom* to achieve the present invention.

Furthermore, the deficiencies of *Lindstrom* are not overcome by the combination of *Lindstrom* with *Sargent*. *Sargent* does not teach or suggest decreasing the amount of aluminum sulfate used in a papermaking process. Nor does *Sargent* teach or suggest the use of urea sulfate as a substitute for aluminum sulfate, thereby failing to add to the teachings of *Lindstrom* or supply the missing elements of the claimed invention for purposes of obviousness under § 103.

Moreover, there is no motivation to combine *Lindstrom*, which discloses the use of alum in a papermaking process, and *Sargent* which discloses the use of urea sulfate in textile processing. Even if the references were combined, the combination would, at best, suggest only the use of urea sulfate in a bleaching stage of papermaking, not decreasing the amount of alum, as recited in Claims 1-6, because neither reference suggests the decrease and/or replacement of alum. Therefore, the Office has not established a *prima facie* case of obviousness of the present claims.

Applicants therefore respectfully submit that claim 1 is not obviousness over *Lindstrom* in view of *Sargent* because 1) one of skill in the art reading *Lindstrom* would not be motivated to look for an alum replacement in the pulping or papermaking process, 2) there is no motivation to combine the teachings of *Lindstrom* and *Sargent*, and 2) even if combined, *Sargent* does not suggest urea sulfate as a substitute for aluminum sulfate. Applicants respectfully submit that Claim 1, and all claims which depend therefrom, are thus patentable over and unobvious over *Lindstrom* and *Sargent*, alone or in combination.

**III. Version of the Amended Claims with Markings to Show Changes**

7. (Amended) A method of adjusting the pH of a process stream or solution of a pulping or papermaking process comprising adding thereto a pH adjusting effective amount of urea sulfate, with the proviso that the process stream or solution is not a bleaching solution.

36. (New) A method of adjusting the pH of a process stream or solution of a pulping or papermaking process comprising adding thereto a pH adjusting effective amount of urea sulfate, wherein the process stream or solution is selected from a prehydrolysis solution, a pulping solution, a pulping effluent stream, a recycled pulping process stream, a washing solution, a washing effluent, a sizing solution, a dyeing solution, or a papermaking effluent stream.

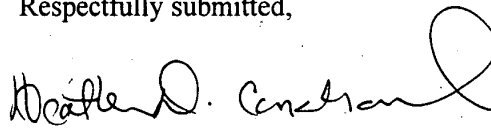
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Amendment and Response

CONCLUSION

For the reasons set forth above, Applicants respectfully submit that the art of record does not anticipate or render obvious the claims of the present application, and Applicants further submit that the claims are currently in condition for allowance. Accordingly, Applicants respectfully request entry of the foregoing amendment and earnestly solicit an early and favorable notice of allowance.

If the Examiner has any questions, or if further issues remain to be resolved, the Examiner is respectfully requested to contact Applicants' representative at the telephone number listed below. Please charge any additional fees or credit any overpayment to Deposit Order Account No. 11-0855.

Respectfully submitted,



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